

TECHNICAL INFORMATION AND SERVICE DATA

AWA **RADIOLA**

Model 527-MA

FIVE VALVE, BROADCAST
A.C. OPERATED SUPERHETERODYNE
AND

Model 528-MA

FIVE VALVE, TWO BAND
A.C. OPERATED SUPERHETERODYNE

ISSUED BY
AMALGAMATED WIRELESS (A/SIA) LTD.



ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGE:

Model 527-MA—M.W. 540-1600 Kc/s.
(555-187.5M.)

Model 528-MA—M.W. 540-1600 Kc/s.
(555-187.5M.)

S.W. 6-18 Mc/s.
(50-16M.)

INTERMEDIATE FREQUENCY 455 Kc/s.

POWER SUPPLY RATING 200-260 volts
50-60 C.P.S.

(Models are produced with other voltage and frequency ratings.)

POWER CONSUMPTION 60 watts

LOUDSPEAKER (Electro Magnet):

9 inch x 6 inch—Code No. BEI.

TRANSFORMER—XAI.

V.C. Impedance—3 ohms at 400 C.P.S.

Field—1000 ohms.

UNDISTORTED POWER OUTPUT—3.5 watts.

VALVE COMPLEMENT

MODEL 527-MA.

1. 6A8G Converter.
2. 6AR7GT I.F. Amp., Det., A.V.C.
3. 6AU6 A.F. Amp.
4. 6V6GT Output.
5. 5Y3GT Rectifier.

MODEL 528-MA.

1. X61M Converter.
2. 6AR7GT I.F. Amp., Det., A.V.C.
3. 6AU6 A.F. Amp.
4. 6V6GT Output.
5. 5Y3GT Rectifier.

MECHANICAL SPECIFICATIONS.

Cabinet Dimensions (inches)

Chassis Base Dimensions (inches)

Carton Dimensions (inches)

Weight (nett lbs.)

Cabinet Colours

Height Width Depth

10 16 9½

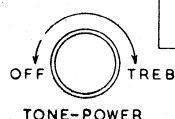
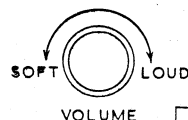
2½ 13½ 6½

12 19 12

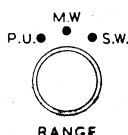
24 lbs.

Walnut, Ivory, Burgundy.

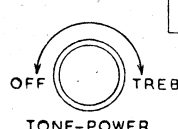
CONTROLS.



528-MA.



RANGE



TONE-POWER

527-MA.



PHONO-RADIO

General Description.

The models 527-MA and 528-MA are mantel models housed in moulded plastic cabinets.

Features of design include: Tropic-proof construction, automatic volume control, magnetite cores in I.F. Transformers and broadcast oscillator coils, air-dielectric trimming capacitors, extension speaker terminals, pick-up terminals, A.C. outlet for Electric Clock, Record Player or F.M. Tuner, and a straight-line edge lighted plastic dial scale.

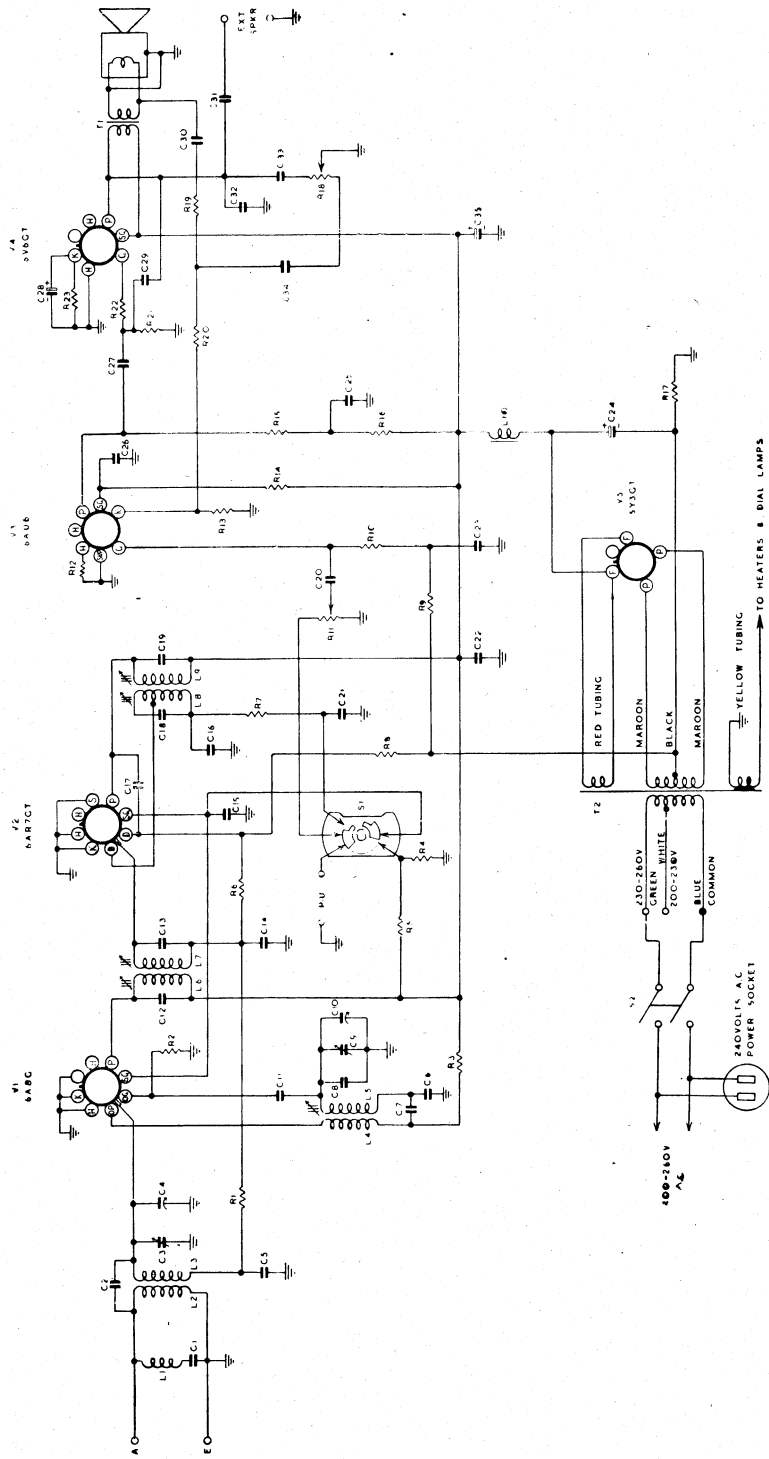
CHASSIS REMOVAL.

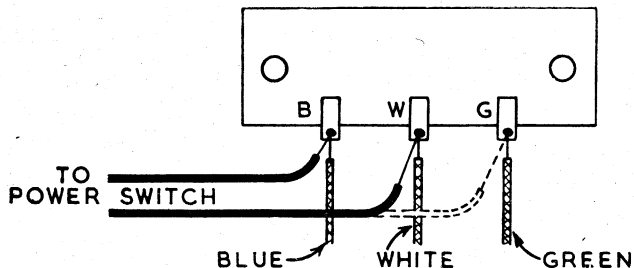
First remove the cabinet back. It is fastened to the cabinet by four screws.

Then remove the control knobs by pulling them straight off their spindles.

The chassis is held in position by two screws through the base of the cabinet. Removal of these enables the chassis to be withdrawn from the cabinet.

When replacing the cabinet back, make sure that the power cord passes through the slot provided in the bottom of the cabinet back.





CONNECTION TO POWER SUPPLY.

The receiver should not be connected to any circuit supplying other than alternating current from 200-260 volts and at the frequency stated on a label within the cabinet. The power supply connections are shown in the accompanying diagram.

ALIGNMENT PROCEDURE.

Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturer with precision instruments and all adjusting screws are sealed. Re-alignment should be necessary only when components in tuned circuits are repaired or replaced or when it is found that the seals over the adjusting screws have been broken.

It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

Under no circumstances should the plates of the ganged tuning capacitor be bent, as the unit is accurately aligned during manufacture and cannot be re-adjusted unless by skilled operators using specialised equipment.

For all alignment operations connect the "low" side of the signal generator to the receiver chassis, and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments.

- (1) A.W.A. Junior Signal Generator, type 2R3911, or
- (2) A.W.A. Modulated Oscillator, type J6726.

If the modulated oscillator is used, connect a 0.25 megohm non-inductive resistor across the output terminals, and, for short wave alignment, an additional 400 ohms non-inductive resistor in series with the "high" output lead of the instrument.

- (3) A.W.A. Output Meter, type 2M8832.

ALIGNMENT TABLE. MODEL 527-MA.

Alignment Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for maximum peak output
1	6A8G*	455 Kc/s.	540 Kc/s.	L9 Core
2	6A8G*	455 Kc/s.	540 Kc/s.	L8 Core
3	6A8G*	455 Kc/s.	540 Kc/s.	L7 Core
4	6A8G*	455 Kc/s.	540 Kc/s.	L6 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s.	600 Kc/s.	L.F. Osc. Core Adj. (L5)†
6	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Osc. Adj. (C9)
7	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Aer. Adj. (C3)
Repeat adjustments 5, 6 and 7.				

*With grid clip connected. A 0.001 μ F capacitor should be connected in series with the "high" side of the test instrument.

†Rock the tuning control back and forth through the signal.

ALIGNMENT TABLE. MODEL 528-MA.

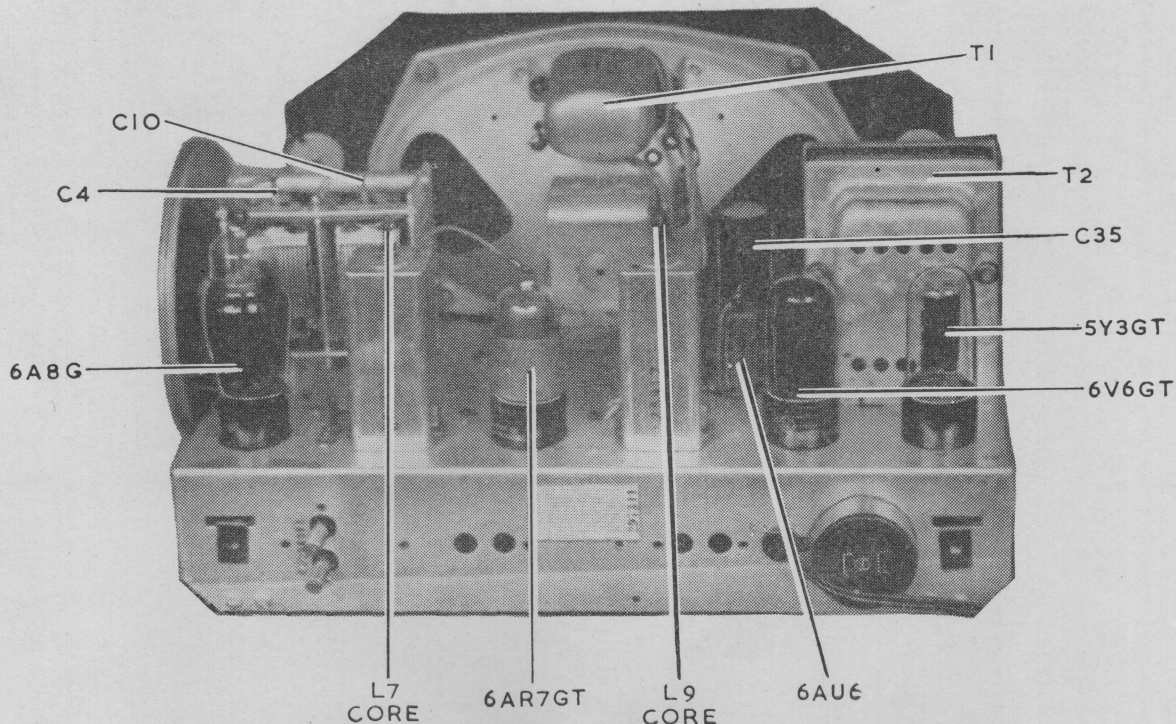
Alignment Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for maximum peak output
1	X61M*	455 Kc/s.	540 Kc/s.	L13 Core
2	X61M*	455 Kc/s.	540 Kc/s.	L12 Core
3	X61M*	455 Kc/s.	540 Kc/s.	L11 Core
4	X61M*	455 Kc/s.	540 Kc/s.	L10 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s.	600 Kc/s.	L.F. Osc. Core Adj. (L7)†
6	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Osc. Adj. (C17)
7	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Aer. Adj. (C3)
Repeat adjustments 5, 6 and 7.				
8	Aerial Terminal	16 Mc/s.	16 Mc/s.	H.F. Osc. Adj. (C19)**
9	Aerial Terminal	16 Mc/s.	16 Mc/s.	H.F. Aer. Adj. (C7)‡

*With grid clip connected. A 0.001 μ F capacitor should be connected in series with the "high" side of the test instrument.

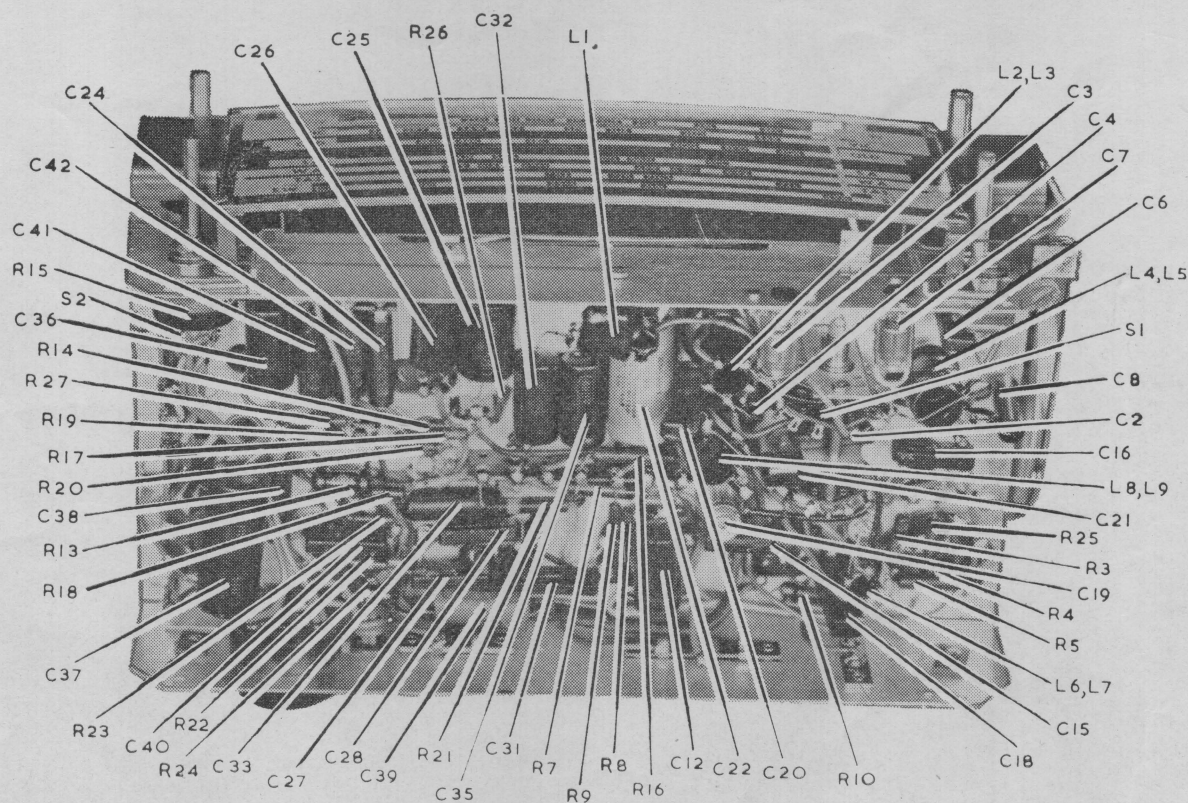
†Rock the tuning control back and forth through the signal.

**Use minimum capacity peak if two can be obtained. Check to determine that the trimmer has been adjusted to correct peak by tuning the receiver to approximately 15.09 Mc/s. where a weaker signal should be received.

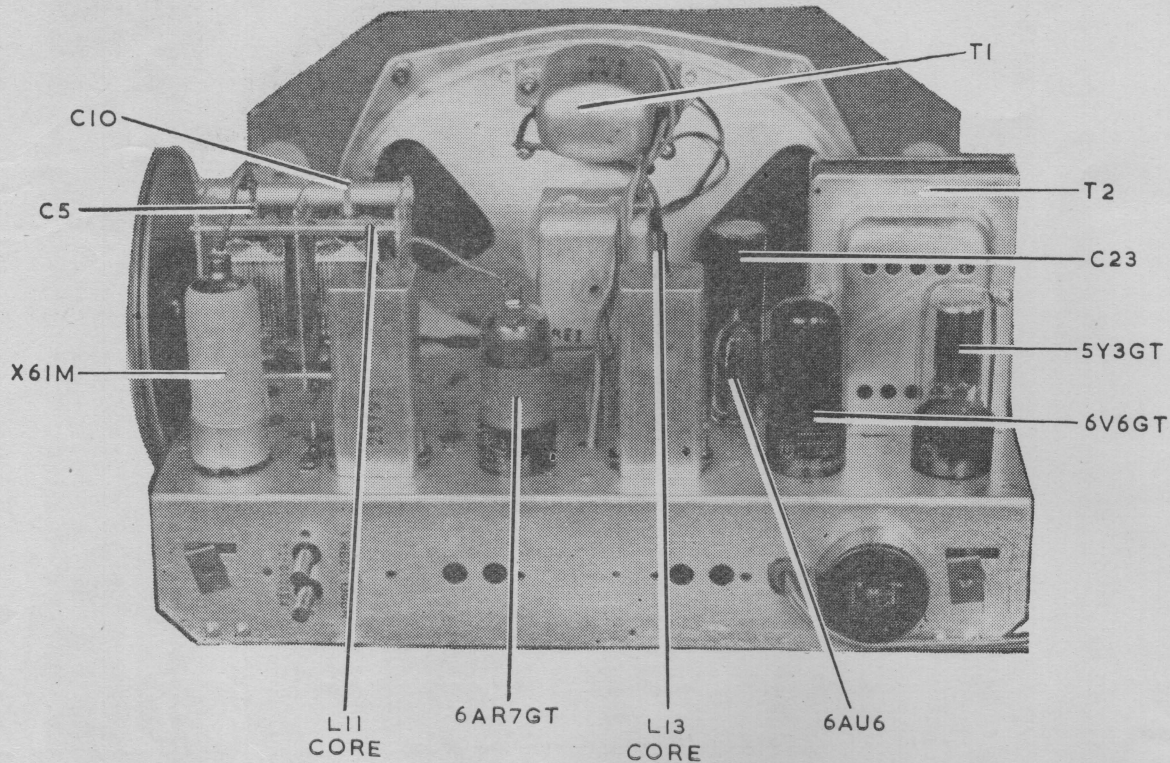
‡Use maximum capacity peak if two can be obtained.



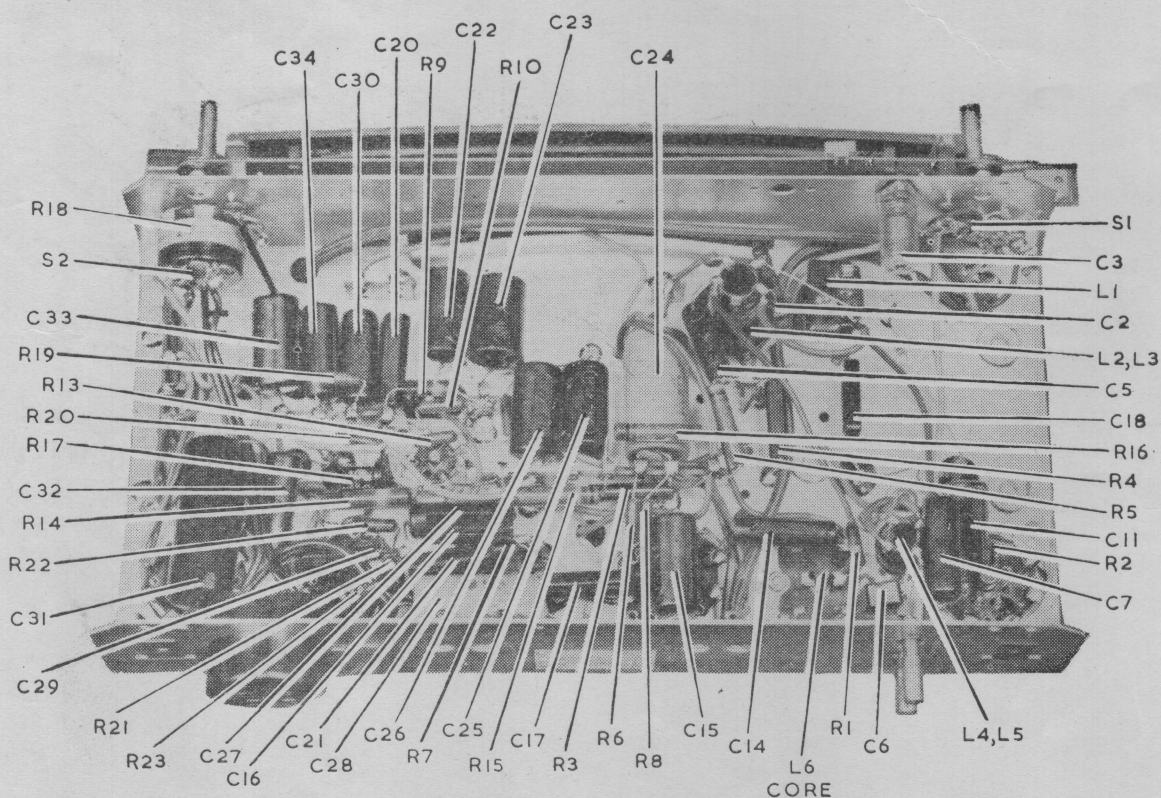
CHASSIS TOP VIEW MODEL 528-MA



CHASSIS UNDERNEATH VIEW MODEL 528-MA



CHASSIS TOP VIEW MODEL 527-MA



CHASSIS UNDERNEATH VIEW MODEL 527-MA

D.C. RESISTANCE OF WINDINGS. MODEL 527-MA.

Winding	D.C. Resistance in ohms
Aerial Coil	
Primary (L2)	30
Secondary (L3)	4
Oscillator Coil	
Primary (L4)	2
Secondary (L5)	6.5
I.F. Transformer Windings	10
I.F. Filter (L1)	17.5*
Power Transformer (T2)	
Primary	25
Secondary	600
Loudspeaker Input Transformer (T1)	
Primary	430 or 525
Secondary	†

*In some receivers this reading may be as high as 60 ohms.

†Less than 1 ohm.

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations, and it should not be assumed that a component is faulty if a slightly different reading is obtained.

SOCKET VOLTAGES. MODEL 527-MA.

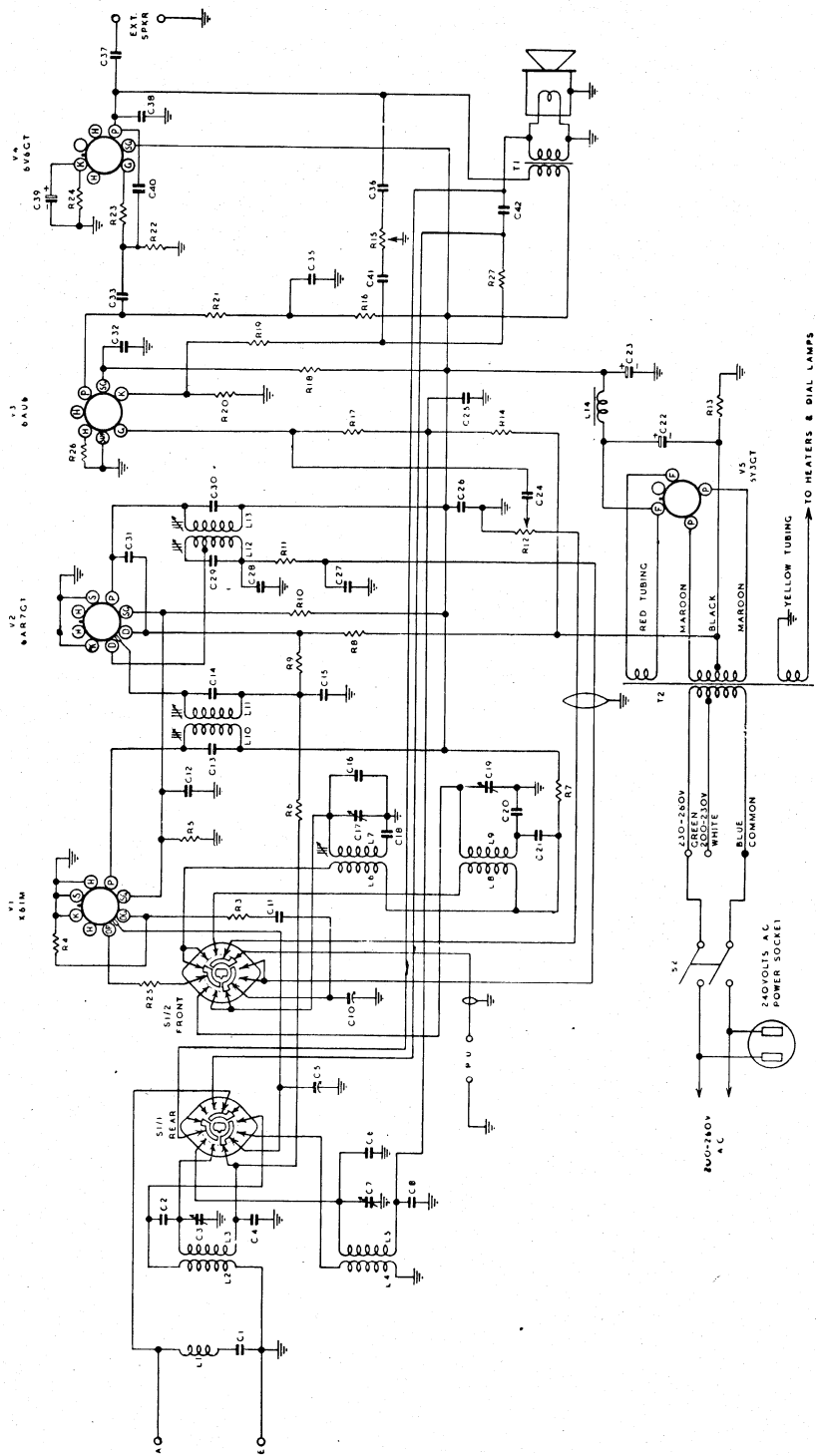
VALVES		Cathode to Chassis Volts	Screen to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Heater Volts
6A8G	Converter	0	90	240	1.6	6.3
	Oscillator	0	—	155	4.5	6.3
6AR7GT	I.F. Amp., Det., A.V.C.	0	90	260	5.0	6.3
6AU6	A.F. Amp.	0.1	70*	20*	0.8	6.3
6V6GT	Output	12.0	260	240	43	6.3
5Y3GT	Rectifier	—	—	325 A.C.	—	5.0

Voltage across back-bias resistor R17—2.0 volts.

Total H.T. Current—70 mA.

Measured at 240 volts A.C. supply. No signal input. Volume Control maximum clockwise. Voltmeter 1000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

*Reading may vary depending on the resistance of the voltmeter used.



D.C. RESISTANCE OF WINDINGS. MODEL 528-MA.

Winding	D.C. Resistance in ohms
Aerial Coil (M.W.)	
Primary (L2)	30
Secondary (L3)	4
Aerial Coil (S.W.)	
Primary (L4)	4
Secondary (L5)	*
Oscillator Coil (M.W.)	
Primary (L6)	2
Secondary (L7)	6
Oscillator Coil (S.W.)	
Primary (L8)	*
Secondary (L9)	*
I.F. Transformer Windings	10
I.F. Filter (L1)	17.5†
Power Transformer (T2)	
Primary	25
Secondary	600
Loudspeaker Input Transformer (T1)	
Primary	430 or 525
Secondary	*

*Less than 1 ohm.

†In some receivers this reading may be as high as 60 ohms.

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations, and it should not be assumed that a component is faulty if a slightly different reading is obtained.

SOCKET VOLTAGES. MODEL 528-MA.

VALVES		Cathode to Chassis Volts	Screen to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Volts Heater
X61M	Converter, M.W.	0	82	260	2.0	6.3
	S.W.	0	—	—	—	—
	Oscillator, M.W.	0	—	110	4.5	—
	S.W.	0	—	110	4.5	—
6AR7GT	I.F. Amp., Det., A.V.C.	0	82	260	5.0	6.3
6AU6	A.F. Amp.	0.1	70*	20*	0.8	6.3
5Y3GT	Rectifier	12	260	240	43	6.3
6V6GT	Output	—	—	325 A.C.	—	5.0

Voltage across back-bias resistor R13—2.0 volts.

Total H.T. Current—67 mA.

Measured at 240 volts A.C. supply. No signal input. Volume Control maximum clockwise.

Voltmeter 1000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

*Reading may vary depending on the resistance of the voltmeter used.

MECHANICAL REPLACEMENT PARTS.

Item	Part No.
Cabinet, Body	25580
Back	25581
Fret	26451
Cable, Pick-up, Model 527-MA ..	25908
Model 528-MA ..	26090
Cable, Volume	26091
Chassis, Mounting Strap	26107
Clip, Grid	7459
Dial Frame Assembly	26131
Dial, Light Cowl	26543
Dial, Pointer Assembly	26138
Dial, Scale, Model 527-MA	25963A
Model 528-MA	25961A

Item	Part No.
Drum, Drive	26147
Knob (3)	26472
Knob (1)	26473
Panel, Power	26132
Socket, Valve (Octal)	4704
(Miniature)	19965
Strip, Tag 1 way	7628
2 way (528-MA only)	8863
4 way	10236
7 way	9870
Terminal, Spring	5458

CIRCUIT CODE RADIO LA 528-MA.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
INDUCTORS								
L1	I.F. Filter (including C1)	9382	R25	100 ohm 1/2 watt		C26	0.1 uF Paper 400 v.	
L2, L3	Aerial Coil 540-1600 Kc/s	15454	R26	2 ohms 1/2 watt		C27	Working	
L4, L5	Aerial Coil 6-18 Mc/s	15456	R27	1500 ohms 1/2 watt		C28	100 uF Mica	
L6, L7	Oscillator Coil 540-1600 Kc/s	7638A	C1	CAPACITORS		C29	100 uF Silvered Mica	
L8, L9	Oscillator Coil 6-18 Mc/s	15458	C2	50 uF Silvered Mica		C30	100 uF Silvered Mica	
L10, L11	1st I.F. Transformer	25195	C3	4 uF Mica		C31	50 uF Mica	
L12, L13	2nd I.F. Transformer	25197	C4	2-20 uF Air Trimmer	19659	C32	0.1 uF Paper 400 v.	
L14	Speaker Field 1000 ohms		C5	0.05 uF Paper 200 v.		C33	Working	
RESISTORS								
R1	Not used		C6	Working		C34	0.02 uF Paper 600 v.	
R2	Not used		C7	12-430 uF Tuning	18224	C35	Not used	
R3	100 ohms 1/2 watt		C8	9 uF Mica		C36	0.1 uF Paper 400 v.	
R4	50,000 ohms 1/2 watt		C9	2-20 uF Air Trimmer	19659	C37	Working	
R5	30,000 ohms 1/2 watt		C10	0.05 uF Paper 200 v.		C38	Working	
R6	0.1 megohm 1/2 watt		C11	Not used		C39	Working	
R7	30,000 ohms 1/2 watt		C12	12-430 uF Tuning	18224	C40	25 uF 40 P.V. Electro-lytic	
R8	1.5 megohms 1/2 watt		C13	0.1 uF Paper 400 v.		C41	14 uF Mica	
R9	1.5 megohm 1/2 watt		C14	Working		C42	0.1 uF Paper 200 v.	
R10	20,000 ohms 2 watt		C15	100 uF Silvered Mica		TRANSFORMERS		
R11	50,000 ohms 1/2 watt		C16	100 uF Silvered Mica		T1	Loudspeaker Transformer	XAI
R12	0.5 megohm Volume Control	26455	C17	100 uF Silvered Mica		T2	Power Transformer 50-60 C.P.S.	17875B
R13	32 ohms 3 watt		C18	0.05 uF Paper 200 v.			Power Transformer 40 C.P.S.	17877B
R14	0.5 megohm 1/2 watt		C19	Working		LOUDSPEAKER		
R15	0.1 megohm Tone Control (including S2)	26456	C20	8 uF 525 P.V. Electro-lytic			9" x 6" Electro Mag-net	BEI
R16	50,000 ohms 1 watt		C21	16 uF 525 P.V. Electro-lytic		SWITCHES		
R17	1.0 megohm 1/2 watt		C22	0.0025 uF Paper 600 v.			Phono/Range Switch	26447
R18	0.5 megohm 1 watt		C23	Working			Power Switch (on R15)	S2
R19	1500 ohms 1/2 watt		C24	0.4 uF Paper 200 v.				
R20	100 ohms 1/2 watt		C25	Working				
R21	0.25 megohm 1 watt							
R22	0.5 megohm 1/2 watt							
R23	50,000 ohms 1/2 watt							
R24	250 ohms 3 watt							

CIRCUIT CODE RADIO LA 527-MA.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
INDUCTORS								
L1	I.F. Filter (including C1)	9382	R22	50,000 ohms ½ watt		C24	8 uF 525 P.V. Electrolytic	
L2, L3	Aerial Coil 540-1600 Kc/s	15454	R23	250 ohms 3 watt		C25	0.1 uF Paper 400 v.	
L4, L5	Oscillator Coil 540-1600 Kc/s	7638A	C1	50 uF Silvered Mica		C26	0.1 uF Paper 400 v.	
L6, L7	1st I.F. Transformer	25195	C2	4 uF Mica	19659	C27	Working	
L8, L9	2nd I.F. Transformer	25197	C3	2-20 uF Air Trimmer	18224	C28	0.02 uF Paper 600 v.	
L10	Speaker Field 1000 ohms		C4	12-430 uF Tuning		C29	Working	
RESISTORS								
R1	0.1 megohm ½ watt		C5	0.05 uF Paper 200 v.		C30	25 uF 40 P.V. Electrolytic	
R2	50,000 ohms ½ watt		C6	440 uF Mica Padder ± 2½%		C31	14 uF Mica	
R3	20,000 ohms 1 watt		C7	0.05 uF Paper 400 v.		C32	0.1 uF Paper 200 v.	
R4	30,000 ohms 1 watt		C8	Working		C33	Working	
R5	20,000 ohms 2 watt		C9	9 uF Mica	19659	C34	0.5 uF Paper 400 v.	
R6	1.5 megohm ½ watt		C10	2-20 uF Air Trimmer	18224	C35	Working	
R7	50,000 ohms ½ watt		C11	12-430 uF Tuning			Working	
R8	1.5 megohms ½ watt		C12	70 uF Mica			0.1 uF Paper 400 v.	
R9	1.5 megohms ½ watt		C13	100 uF Silvered Mica			Working	
R10	0.5 megohms ½ watt		C14	100 uF Silvered Mica			0.1 uF Paper 200 v.	
R11	0.5 megohm Volume Control	26455	C15	0.05 uF Paper 200 v.			Working	
R12	2 ohms ½ watt		C16	Working			16 uF 525 P.V. Electrolytic	
R13	100 ohms ½ watt		C17	100 uF Mica		TRANSFORMERS		
R14	0.5 megohm 1 watt		C18	50 uF Mica		T1	Loudspeaker Transformer	XAI
R15	0.25 megohm 1 watt		C19	100 uF Silvered Mica		T2	Power Transformer 50-60 C.P.S.	17875B
R16	50,000 ohms 1 watt		C20	100 uF Silvered Mica			Power Transformer 40 C.P.S.	17877B
R17	32 ohms 3 watt		C21	Working			Power Transformer	
R18	0.1 megohm Tone Control (inc. S2)	26456	C22	100 uF Mica		LOUDSPEAKER		
R19	1500 ohms ½ watt		C23	0.1 uF Paper 400 v.			9" x 6" Electro Magnet	BEI
R20	1500 ohms ½ watt			Working		SWITCHES		
R21	0.5 megohm ½ watt			0.4 uF Paper 200 v.			Phono/Radio Switch	26445
				Working			Power Switch (on R18)	